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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------|-------------|----------------------|---------------------|------------------|
| 10/540,925 | 05/12/2006 | Sang-goog Lee | Q88928 | 8066 |
| 23373 | 7590 | 11/23/2010 | EXAMINER | |
| SUGHRUE MION, PLLC | | | CHOW, YUK | |
| 2100 PENNSYLVANIA AVENUE, N.W. | | | | |
| SUITE 800 | | | ART UNIT | PAPER NUMBER |
| WASHINGTON, DC 20037 | | | 2629 | |
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| | | | NOTIFICATION DATE | DELIVERY MODE |
| | | | 11/23/2010 | ELECTRONIC |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/540,925 | LEE ET AL. | |
| | Examiner | Art Unit | |
| | YUK CHOW | 2629 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 04 November 2010.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-41 is/are pending in the application.
 4a) Of the above claim(s) 7-14, 19-24 and 26-39 is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-6, 15-18, 25, 40 and 41 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/04/2010 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1, 2, 15, 16, 25, 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohri (US 2002/0012014) in view of Fukumoto et al. (US 6,380,923).**

As to **claim 1**, Mohri discloses a method of configuring a three-dimensional (3D) information input device which performs information input operations using a plurality of finger devices that are worn by a user and senses the user's finger movement, the method comprising steps of:

obtaining movement signal output from each of the finger devices (Fig. 22(S1, S12, S18 and S23)) and recognizing finger positions of the finger device representing positions of fingers by which the finger device are worn (Fig. 5(7I, 7M, 7TY, 7TX)); and adaptively configuring the 3D input device (Fig. 22(S2-S25) correspond to signal which are provided from the plurality of the finger devices worn by a user, by using information of the recognized finger position of the finger device (see [0195]-[0219]).

However, Mohri's disclosure does not teach wherein the adaptively configuring the 3D input device comprises determining the number of fingers on which the plurality of devices are worn and assigning differing configurations to the input device based on the number of fingers which are wearing a finger device; and wherein the result of the input operation is determined by a combination of the finger positions and the assigned configuration of the input device.

Fukumoto discloses a wearable information managing device wherein teaches the input device determine the number of fingers on which the plurality of devices are worn (see Fig. 1, five fingers have sensors worn and Fig. 37, six fingers have sensors) and assigning differing configurations to input device based on the number of finger which are wearing a finger device (Fig. 2 configuration is differed from Fig. 38); and wherein the result of input operation in determined by a combination of finger position and the assigned configuration of the input device (see Fig. 36).

It would have been obvious to one ordinary skill in the art at the time of invention was made to incorporate method of determine the number of sensors were worn on

fingers and assigning differing configurations as in Fukumoto into the 3D input device of Mohri, because this further extending usability such as a six-point or eight-point Braille system (see Fukumoto Col. 22 line 17- Col. 23 line 43).

As to **claim 2**, Mohri and Fukumoto disclose the method of claim 1, wherein adaptively configuring the 3D input device comprises:

adaptively configuring a signal-processing unit (see Mohri Fig. 25(211)), which processes movement signals sensed by the finger device, based on the recognition results (see Mohri [0269]-[0276]); and

adaptively configuring a device driver of the 3D input device based on the recognition results and basic set-up information used for information input (See Mohri [0277]-[0278]).

As to **claim 15**, Mohri discloses a three-dimensional (3D) input device, which is adaptively configurable and performs information input operation using a plurality of finger devices that are worn by a user and senses the user's finger movement, the 3D input device comprising:

a pre-processing unit (Fig. 21(112x,y,z, Bx,y,z) which obtains movement signals output from each of the finger devices and recognizes the finger position of the finger device (See [0192]-[0193]); and

a signal-processing unit (Fig. 25(211)) which is adaptively configured to process the movement signals output from the plurality of finger devices worn by the user corresponding to signal which are provide from the plurality of the finger device worn by

a user, by using information of the recognized finger positions of the finger device. (see [0195]-[0219]).

However, Mohri's disclosure does not teach wherein the adaptively configuring the 3D input device comprises determining the number of fingers on which the plurality of devices are worn and assigning differing configurations to the input device based on the number of fingers which are wearing a finger device; and wherein the result of the input operation is determined by a combination of the finger positions and the assigned configuration of the input device.

Fukumoto discloses a wearable information managing device wherein teaches the input device determine the number of fingers on which the plurality of devices are worn (see Fig. 1, five fingers have sensors worn and Fig. 37, six fingers have sensors) and assigning differing configurations to input device based on the number of finger which are wearing a finger device (Fig. 2 configuration is differed from Fig. 38); and wherein the result of input operation in determined by a combination of finger position and the assigned configuration of the input device (see Fig. 36).

It would have been obvious to one ordinary skill in the art at the time of invention was made to incorporate method of determine the number of sensors were worn on fingers and assigning differing configurations as in Fukumoto into the 3D input device of Mohri, because this further extending usability such as a six-point or eight-point Braille system (see Fukumoto Col. 22 line 17- Col. 23 line 43).

As to **claim 16**, Mohri and Fukumoto disclose the 3D input device of claim 15 further comprising a device driver (see Mohri Fig. 25(208, 215)), which is adaptively configured to process the movement signals output from the signal-processing unit based on the recognition result of the pre-processing unit and basic set-up information for information input (See Mohri [0270]-[0278]).

As to **claim 25**, Mohri and Fukumoto disclose the method of claim 1, wherein the recognizing finger positions of the finger device comprises recognizing the position of each of a plurality of fingers (see Mohri Fig. 24, sensors recognizing the position of each of multiple fingers).

As to **claim 40**, Mohri and Fukumoto disclose the method of claim 1, wherein the adaptively configuration the 3D input device includes deactivating algorithms on unworn finger device from among the plurality of finger devices (see Mohri [0034], “a command is based on the output of the sensor”, when the finger device is not been worn, no command would be generated or deactivating algorithms.).

As to **claim 41**, Mohri and Fukumoto disclose the 3D input device of claim 15, wherein the signal-processing unit deactivates algorithms on unworn finger device for among the plurality of finger devices (see Mohri [0034], a command is based on the output of the sensor, when the finger device is not been worn, no command would be generated or deactivating algorithms.).

4. Claims 3-6 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohri and Fukumoto in further view of Rafii et al. (US 6,512,838).

As to **claims 3 and 17**, Mohri and Fukumoto disclose the method of claims 2 and 16 respectively above.

However, Mohri and Fukumoto does not teach the basic set-up information includes input scenario information related to arrangement of information items that are selected by finger movement and a language used for information input.

Rafii discloses methods for data acquired system wherein teach basic setup information including a language used for input (see Col. 8 lines 46-63).

It would have been obvious to one ordinary skill in the art at the time of invention was made to incorporate basic set-up information including language of Rafii into a method of configuring a three-dimensional (3D) information input device of Mohri and Fukumoto, because this further promoting flexibility (see Rafii Col. 8 lines 46-63).

As to **claims 4 and 18**, Mohri and Fukumoto disclose the method of claims 2 and 17 respectively above.

However, Mohri does not teach an application configures a soft keyboard based on the recognition results and the basic set-up information, when the application receives the recognition results and the basic set-up information from the device driver.

Rafii discloses methods for data acquired system wherein teach an application configures a soft keyboard (Fig. 1c(115)) based on the recognition results and the basic set-up information from device driver (see Fig. 3(200) and Col. 18, lines 39-56).

It would have been obvious to one ordinary skill in the art at the time of invention was made to incorporate an application configures a soft keyboard of Rafii into a method of configuring a three-dimensional (3D) information input device of Mohri and Fukumoto, because this further promoting flexibility (see Rafii Col. 8 lines 46-63).

As to **claim 5**, Mohri, Fukumoto and Rafii disclose the method of claim 4, wherein the application outputs the configured soft keyboard to an output device (see Rafii Fig. 3(80)).

As to **claim 6**, Mohri, Fukumoto and Rafii disclose the method of claim 5, wherein the soft keyboard displays finger positions of the finger device on an array of information items that are selected by finger movements (see Rafii Fig. 1C and Col. 10 lines 9-39).

Response to Arguments

5. Applicant's arguments with respect to claims 1 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUK CHOW whose telephone number is (571)270-1544. The examiner can normally be reached on 8-6 M-TH E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quan-Zhen Wang can be reached on (571) 272-3114. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. C./
Examiner, Art Unit 2629

/Quan-Zhen Wang/
Supervisory Patent Examiner, Art Unit 2629